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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,688	06/13/2001	Annemarie Poustka	POUSTKA-2	6614

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EXAMINER	
EPPERSON, JON D	

ART UNIT	PAPER NUMBER
1639	

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/880,688	POUSTKA ET AL.	
	Examiner	Art Unit	
	Jon D. Epperson	1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *54,56-64,66-71 and 75-83* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *54,56-64,66-71 and 75-83* is/are rejected.

7)☒ Claim(s) *71,76 and 77* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/13/01*.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *8/21/06*.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of the Application

1. The Response filed August 21, 2006 is acknowledged.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

Status of the Claims

3. Claim 11-14 and 27-74 were pending. Applicants canceled claims 11-53, 55, 65 and 72-74. In addition, Applicants added claims 75-83 and amended claims all claims except claims 60, 67 and 71. Therefore, claims 54, 56-64, 66-71 and 75-83 are currently pending and examined on the merits (e.g., see 8/21/06 Response, page 2, "Claims 54, 56-64, 66-71 and 75-83 read on the elected invention").

Withdrawn Objections/Rejections

4. The objections to claims 37, 39 and 72 are hereby withdrawn in view of Applicants' cancellation of said claims. The rejections denoted A-D under 35 U.S.C. § 112, second paragraph are hereby withdrawn in view of Applicants' cancellation of claims and/or amendments thereto. The Fodor rejection under 35 U.S.C. § 102(b) is withdrawn in view of Applicants' cancellation of claims 53, 72 and 73. The Nishioka ('754) rejection under 35 U.S.C. § 102(b) is withdrawn in view of Applicants' cancellation of claim 73. The Nishioka ('679)

rejection under 35 U.S.C. § 102(b) is withdrawn in view of Applicants' amendment to claim 54 and cancellation of claims 53, 72 and 73. The Demers rejection under 35 U.S.C. § 102(b) is withdrawn in view of Applicants' cancellation of claims 37-39, 52-55 and 72-73 and/or amendments. Demers fails to show a "solid state" of aggregation. Dermers only shows the use of a "gel-like" state that is distinguished from a "solid state" in the specification (e.g., see abstract, "the transport units can ... adopt a solid or gel-like stage of aggregation [i.e., solid and gel-like states are not the same]"; see also Summary of Invention, paragraph 25, "Another characteristic of the method is that said solid state of aggregation is preferably converted within a short time back into liquid, preferably gel-like, state of aggregation by supplying energy [i.e., it takes energy to convert a solid to a gel]"). Therefore, a gel does not read on a solid and, as a result, Demers does not anticipate the claimed invention, which requires a "solid" state of aggregation (e.g., see independent claim 75, "applying these transport units in the solid state of aggregation onto a support"; see also independent claim 80, "positioning at different times transport units in a solid state of aggregation at different locations"; see also independent claim 83, "positioning at different times a pattern ... at a solid state of aggregation to a support").

New Rejections/Objections

Objections to the Claims

5. Claim 71, 76 and 77 are objected to because of the following informalities:

A. Claim 71 spells immobilized with an "s" rather than a "z" (e.g., compare claim 71 line 2 to claim 80, line 4).

B. Claims 76 (and dependent claim 77) are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form or rewrite the claim(s) in independent form. Claim 76 depends from claim 75. Claim 75 recites in part: "applying these transport units in the solid state of aggregation onto a support." However, claim 76 recites the limitation "applying the transport units to the support in a liquid state" (e.g., see line 3). Therefore, claim 76 does not further limit claim 75.

Claim Rejections - 35 USC § 112, second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 54, 56-64, 66-71, 75-83 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. For **claim 75**, the phrase "covalently linking the thus mobilized substances to molecules located on the support, or enter into a chemical reaction or catalyse the molecules thereby yielding a number of different substances coupled to the support;" is vague and indefinite. For example, it is not clear how the phrase "or enter into a chemical reaction" further limits and/or provides an alternative for the "covalently linking the thus mobilized substances to molecules located on the support? If the

mobilized substances "covalently link" to the molecules located on the support they must necessarily undergo a "chemical reaction" to form such a covalent bond. Applicants' are requested to clarify and/or correct. In addition, "or catalyse the molecules" is not clear because it is unclear what "molecules" Applicants are referring to? Are the molecules located on the support catalyzed and, if so, into what? Are the molecules mobilized substances be catalyzed? Therefore, claim 75 and all dependent claims are rejected under 35 U.S.C. 112, second paragraph.

B. **Claim 80** recites the limitation "the substrate" in line 9. There is insufficient antecedent basis for this limitation in the claim. Therefore, claim 80 and all dependent claims are rejected under 35 USC 112, second paragraph.

C. **Claim 81** recites the limitation "the solid support" in line 3. There is insufficient antecedent basis for this limitation in the claim. Therefore, claim 81 and all dependent claims are rejected under 35 USC 112, second paragraph.

D. **Claim 83** recites the limitation "the monomers" in lines 6 and 7 and, also, "the reversibly immobilized monomers" in line 8. There is insufficient antecedent basis for these limitations in the claim. Therefore, claim 83 and all dependent claims are rejected under 35 USC 112, second paragraph.

Claims Rejections - 35 U.S.C. 112, first paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 54, 56-64, 66-71 and 75-83 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed had possession of the claimed invention. This is a new matter rejection.

A. Claims 75-83 were added claims all previously pending claims were amended except claims 60, 67 and 71 in the August 21, 2006 Response. However, applicant did not show where support for these amendments and/or additions can be found in the specification. Specifically, the Examiner cannot find support for the following limitations:

> For ***claims 75, 80 and 83 (and all dependent claims except for dependent claim 81)***, the phrase "applying these transport units in the solid state of aggregation onto a support" (for claim 75) or "positioning at different times transport units in a solid state of aggregation at different locations on the support" (for claim 80) or "transport units at a solid state of aggregation to a support" (for claim 83) insofar as these independent claims no longer require the use of a "solid" support as set forth in the original application (e.g., see paragraph 224, "Unlike the familiar standard synthesis, the oligonucleotides are anchored on the solid support"). Thus, to the extent that these claims now read on supports that are not "solid" (e.g., gel-like supports), this increased breadth constitutes new matter.
>
> For ***claims 75, 80 and 83 (and all dependent claims)***, to the extent that the claimed coupling no longer need to occur at the "surface" of the substrate, this increased breadth represents new matter (e.g., see original claim 1, "substances (2, 9) thus mobilised enter the vicinity of the support surface"; see also independent claims 75, 80 and 83 wherein this "surface" limitation is no longer required).
>
> For ***claims 75 (and all dependent claims)***, the phrase "repeating the forgoing steps" in line 17 lack support. For example, original claim 1 merely states, "wherein more than one layer of said substances (2) is applied repeatedly one after the other to the support (1) in precise positions, in each case followed by the covalent linking of the substances to the support." Thus, not all of the "forgoing" steps were repeated. For example, the "catalyzing" step was not repeated.
>
> For ***claim 83 (and all dependent claims)***, the phrase "wherein the immobilized peptide or nucleic acid monomers are temporarily blocking a coupling reaction of the monomers to the support by the reversibly immobilized monomers" lacks support. Specifically, there is no support in the original specification and claims for "temporarily" blocking a coupling reaction by "reversibly" immobilizing monomers.

If applicant believes this rejection is in error, applicant must disclose where in the specification support for this amendment can be found in accordance with MPEP 714.02.

8. Claims 54, 56-64, 66-71 and 75-83 are rejected under 35 USC 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant is directed to the Guidelines for the Examination of Patent Applications Under the 35 USC 112, ¶ 1 "Written Description" Requirement, Federal Register, Vol. 66, No. 4 pages 1099-1111, Friday January 5, 2001. This is a written description rejection.

Applicants' claims are directed to a broad genus of methods for applying substances such as monomers to a support for the combinatorial synthesis of molecule libraries. In addition, Applicants set forth method steps for "applying" transport units in the "solid state of aggregation" onto a support without specifying any means for performing such a function. That is, Applicants' new claims encompass all deposition methods (e.g., Inkjet printers, LaserJet printers, pipettes, spatula, etc.), which represent the entire universe of possibilities for applying solid substances to a support without exception. Furthermore, the claims fail to limit the chemical nature (i.e., structure, composition, etc.) of at least one entity employed in the claimed methods including the substances used to make the library, matrix materials, support and/or the molecules on the surface of said support (e.g., see independent claim 75 wherein the chemical "substances" in line 3 are not defined by any chemical structures and/or identifying physiochemical properties). This would include the use of every element in the periodic table in innumerable combinations that may not be compatible with solid toner particles.

In contrast, Applicants' specification sets forth only two working examples for applying "solid" substances to the support (e.g., see specification, Examples g and h wherein a "peptide" and a "dna" library are disclosed). Furthermore, both examples use the same "laserjet" technology (see specification, Examples g and h). That is, in contrast to Applicants' enormous claims, only one method of application is disclosed (i.e., laserjet printing). That is, Applicants developed methods for producing said "peptide" or "dna" libraries by replacing the "colored" toner particles found in a laserjet printer with "amino acid" or "phosphoramidite" toner particles, respectively (e.g., see specification, Examples c and d). Furthermore, Applicants' toner particles require the use of "solid" solvents like diphenylformamide to effectuate the claimed methods (see specification, Examples c and d).

Applicants are referred to the discussion in University of California v. Eli Lilly and Co. (U.S. Court of Appeals Federal Circuit (CAFC) 43 USPQ2d 1398 7/22/1997 Decided July 22, 1997; No. 96-1175) regarding adequate disclosure. For adequate disclosure, like enablement, requires representative examples, which provide reasonable assurance to one skilled in the art that the compounds falling within the scope both possess the alleged utility and additionally demonstrate that applicant had possession of the full scope of the claimed invention. See In re Riat (CCPA 1964) 327 F2d 685, 140 USPQ 471; In re Barr (CCPA 1971) 444 F 2d 349, 151 USPQ 724 (for enablement) and University of California v. Eli Lilly and Co cited above (for disclosure). The more unpredictable the art the greater the showing required (e.g. by "representative examples") for both enablement and adequate disclosure. In addition, when there is substantial

variation within the genus, one must describe a sufficient variety of species to reflect the variation within the genus (e.g., see MPEP § 2163.05). Here, the variation within the genus would because Applicants do not set any limits on the method steps for applying the solid substance to the support (e.g., laserjet, inkjet, dipping, etc.). Furthermore, Applicants fail to limit the chemical nature (i.e., structure and composition) of at least one material used in the claimed methods (e.g., monomers, substrate, matrix, etc.).

Furthermore, the general knowledge and level of skill in the art do not supplement the omitted description because the prior art indicates that many of the currently claimed embodiments are unpredictable and/or inoperable. For example, Calvert states, "Ink viscosity and surface tension are crucial parameters in the design of a printer ... The viscosity must also be low enough to allow the channel to be refilled in about 100 ms. The surface tension must be high enough, and the pressure low enough, to hold the ink in the nozzle without dripping. A major concern in ink design is the "first drop problem", which is the clogging of nozzles by partly dried ink. ... A typical ink has a viscosity up to 2 cP but printers can be designed to handle liquids up to 100 cP ... The surface tension should not be lowered ... because this leads to the ink wetting the faceplate around the nozzles and also prevents formation of a stable droplet stream. The minimum surface tension is about 35 $mN \cdot m^{-1}$" (e.g., see Calvert, P. "Inkjet Printing for Materials and Devices" Chem. Mater. **2001**, *13*, 3299-3305, especially page 3299, paragraph bridging columns 1 and 2). Thus, a person of skill in the art would not expect to be able to transfer "solid" particles using an inkjet printer because, according to Calvert as set forth above, such a printer would "clog" and thus fail to print.

In addition, there is no known generally accepted method for producing the wide array of compounds used in the claimed methods. For example, Lauf et al. state, "The preparation of new materials with novel and useful chemical and/or physical properties is at best unpredictable considering current levels of understanding. Consequently, the discovery of new materials depends largely on the ability to synthesize and analyze new compounds. Given approximately 100 elements in the periodic table, which can be used to make compositions consisting of three, four, five, six or more elements, the universe of possible new compounds remains largely unexplored" (e.g., see Lauf et al., U.S. Patent Application No. 2004/0062911 A1, page 1, paragraph 4). Thus, the vast majority of Applicants' claimed scope (other than peptides and nucleic acids) remains, according to Lauf et al., largely unexplored. Furthermore, not all solid supports are created equal. For example, Yan et al state, "A common problem in SPOS [solid phase organic synthesis] practice is that reaction conditions can not simply be transferred from one kind of support to another. A set of reaction conditions may work well for polystyrene resins, but may fail completely for pin- or PS-PEG resin-based synthesis" (see Yan, B.; Gremlich, H. –U. "Role of Fourier Transform infrared spectroscopy in the rehearsal phase of combinatorial chemistry: a thin-layer chromatography equivalent for on-support monitoring of solid-phase organic synthesis" *J. Chromatogr. B: Biomed. Sci. Applic.* **1999**, 725, 91-102, especially page 97). Thus, the use of "any" substrate for the solid phase synthesis of molecular libraries is at best unpredictable according to Yan et al.

Thus, the claims fail to satisfy the constitutional requisite of promoting the progress of science and the useful arts since this seeks to monopolize all possible ways to

achieve a given result (e.g., all method for applying solid particles to a surface; the production of any molecular library), far beyond those means actually discovered or contemplated by the inventor (e.g., laserjet printing; the production of peptide/nucleic acid molecular libraries), so that others would have no incentive thereafter to explore a field already fully dominated. *O'Reilly v. Morse*, 15 How. 62, *In re Fuetterer*, 50 CCPA 1453, 1963 C.D. 620, 795 O.G. 783, 319 F.2d 259, 138 USPQ 217; *Siegel v. Watson*, 105 U.S. Appl. D.C. 344, 1959 C.D. 107, 742 O.G 863, 267 F.2d 621, 121 USPQ 119.

9. Claims 54, 56-64, 66-71 and 75-83 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for laserjet printing amino acid or phosphoramidite toner particles using "solid" solvents like diphenylformamide, does not reasonably provide enablement for any means for transferring solid substances to a substrate for the synthesis of any type of molecular library using any types of reagents. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue". Some of these factors may include, but are not limited to:

(1) the breadth of the claims;
(2) the nature of the invention;
(3) the state of the prior art;
(4) the level of one of ordinary skill;
(5) the level of predictability in the art;

(6) the amount of direction provided by the inventor;
(7) the existence of working examples; and
(8) the quantity of experimentation needed to make or use the invention based on the content of the disclosure.

See *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

(1-2) The breadth of the claims and the nature of the invention: Applicants' claims are directed to a broad genus of methods for applying substances such as monomers to a support for the combinatorial synthesis of molecule libraries. In addition, Applicants set forth method steps for "applying" transport units in the "solid state of aggregation" onto a support without specifying any means for performing such a function. That is, Applicants' new claims encompass all deposition methods (e.g., Inkjet printers, LaserJet printers, pipettes, spatula, etc.), which represent the entire universe of possibilities for applying solid substances to a support without exception. Furthermore, the claims fail to limit the chemical nature (i.e., structure, composition, etc.) of at least one entity employed in the claimed methods including the substances used to make the library, matrix materials, support and/or the molecules on the surface of said support (e.g., see independent claim 75 wherein the chemical "substances" in line 3 are not defined by any chemical structures and/or identifying physiochemical properties). This would include the use of every element in the periodic table in innumerable combinations that may not be compatible with solid toner particles. Consequently, the nature of the invention cannot be fully determined.

(3 and 5) The state of the prior art and the level of predictability in the art: For example, Calvert states, "Ink viscosity and surface tension are crucial parameters in the design of a printer ... The viscosity must also be low enough to allow the channel to be

refilled in about 100 ms. The surface tension must be high enough, and the pressure low enough, to hold the ink in the nozzle without dripping. A major concern in ink design is the "first drop problem", which is the clogging of nozzles by partly dried ink. ... A typical ink has a viscosity up to 2 cP but printers can be designed to handle liquids up to 100 cP ... The surface tension should not be lowered ... because this leads to the ink wetting the faceplate around the nozzles and also prevents formation of a stable droplet stream. The minimum surface tension is about 35 $mN \cdot m^{-1}$" (e.g., see Calvert, P. "Inkjet Printing for Materials and Devices" Chem. Mater. **2001**, *13*, 3299-3305, especially page 3299, paragraph bridging columns 1 and 2). Thus, a person of skill in the art would not expect to be able to transfer "solid" particles using an inkjet printer because, according to Calvert as set forth above, such a printer would "clog" and thus fail to print.

In addition, there is no known generally accepted method for producing the wide array of compounds used in the claimed methods. For example, Lauf et al. state, "The preparation of new materials with novel and useful chemical and/or physical properties is at best unpredictable considering current levels of understanding. Consequently, the discovery of new materials depends largely on the ability to synthesize and analyze new compounds. Given approximately 100 elements in the periodic table, which can be used to make compositions consisting of three, four, five, six or more elements, the universe of possible new compounds remains largely unexplored" (e.g., see Lauf et al., U.S. Patent Application No. 2004/0062911 A1, page 1, paragraph 4). Thus, the vast majority of Applicants' claimed scope (other than peptides and nucleic acids) remains, according to Lauf et al., largely unexplored. Furthermore, not all solid supports are created equal. For

example, Yan et al state, "A common problem in SPOS [solid phase organic synthesis] practice is that reaction conditions can not simply be transferred from one kind of support to another. A set of reaction conditions may work well for polystyrene resins, but may fail completely for pin- or PS-PEG resin-based synthesis" (see Yan, B.; Gremlich, H. –U. "Role of Fourier Transform infrared spectroscopy in the rehearsal phase of combinatorial chemistry: a thin-layer chromatography equivalent for on-support monitoring of solid-phase organic synthesis" *J. Chromatogr. B: Biomed. Sci. Applic.* **1999**, 725, 91-102, especially page 97). Thus, the use of "any" substrate for the solid phase synthesis of molecular libraries is at best unpredictable according to Yan et al.

(4) The level of one of ordinary skill: The level of skill required would be high, most likely at the Ph.D. level.

(6-7) The amount of direction provided by the inventor and the existence of working examples: Applicants' specification sets forth only two working examples for applying "solid" substances to the support (e.g., see specification, Examples g and h wherein a "peptide" and a "dna" library are disclosed). Furthermore, both examples use the same "laserjet" technology (see specification, Examples g and h). That is, in contrast to Applicants' enormous claims, only one method of application is disclosed (i.e., laserjet printing). That is, Applicants developed methods for producing said "peptide" or "dna" libraries by replacing the "colored" toner particles found in a laserjet printer with "amino acid" or "phosphoramidite" toner particles, respectively (e.g., see specification, Examples c and d). Furthermore, Applicants' toner particles require the use of "solid" solvents like diphenylformamide to effectuate the claimed methods (see specification, Examples c and

d).

(8) The quantity of experimentation needed to make or use the invention base on the content of the disclosure: As a result of the broad and unpredictable nature of the invention and the lack of sufficient guidance from the specification, the Examiner contends that the quantity of experimentation needed to make and or use the invention would be great. Note that there must be sufficient disclosure, either through illustrative examples or terminology, to teach those of ordinary skill how to make and use the invention as broadly as it is claimed. *In re Vaeck*, 947 F.2d 488, 496 & n.23, 20 USPQ2d 1438, 1445 * n.23 (Fed. Cir. 19991).

Conclusion

Applicant's amendment necessitated any new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon D Epperson whose telephone number is (571) 272-0808. The examiner can normally be reached Monday-Friday from 9:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Paras can be reached on (571) 272-4517. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jon D. Epperson, Ph.D.
October 27, 2006

JON EPPERSON, PH.D.
PATENT EXAMINER